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ABSTRACT

Adolescence is considered a transitory phase in the life course. Failure in school during adolescence can carry with it the risk of an occupational and social downward mobility in the future life course in comparison to the family of origin. The stress associated with this risk can have detrimental effects on the social and emotional climate within the family and can manifest itself in psychosomatic symptoms. To examine this issue, 1,717 adolescent students in West German schools were asked to complete a questionnaire assessing psychosomatic disorders, failure in school and the risk of downward mobility, social conflict with parents, and emotional conflict with parents. The results support the hypotheses that psychosomatic frequency is reinforced when adolescents experience failure in school and when they experience social and emotional conflict in their relationships with their parents. Multivariate analysis demonstrated that these effects were interconnected. Failure in school had a direct effect on the frequency of psychosomatic disorders, and an indirect effect on disorders by influencing social and emotional conflicts in the family. The underlying causes for the tensions between adolescents and their parents are conceived in the social and economic opportunity structures of the society. (NB)

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Failure in School, Family Conflicts, and Psychosomatic Disorders in Adolescence*

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Failure in School, Family Conflicts, and Psychosomatic Disorders in Adolescence

Abstract

Adolescence is considered to be a transitory phase in the life course. It is hypothesized that failure in school, which carries the risk of an occupational and social "downward mobility" in the future life course in comparison to the family of origin, can function as a social "stressor" which has detrimental effects on the social and emotional climate within the family and manifests itself in symptoms of stress such as psychosomatic disorders. The results are based on a questionnaire survey carried out with a representative sample of 1.717 students aged 13-16 in West Germany. The data support the hypotheses: Psychosomatic symptom frequency is reinforced when adolescents experience failure in school and social and emotional conflict in their relationships with parents. Multivariate analysis shows that these effects are interconnected: Failure in school has a direct effect on the frequency of psychosomatic disorders, and an indirect effect by influencing social and emotional conflicts in the family. The underlying causes for the tensions between adolescents and their parents are conceived in the social and economic opportunity structures of the society.

1. Theoretical orientation and hypotheses

In all industrial societies, adolescence is defined as a period in which decisions are made in important areas of life which affect the social and occupational status of adulthood (Engel, 1987; Hurrelmann, 1987). This is especially true in the case of formal education. The position which an adolescent assumes within the educational system offers particular options to him/her in subsequent educational courses and future occupational careers, and at the same time prevents him/her from pursuing other options. On the basis of previous studies, we know that one of the important determining factors in this respect is the social background of the family (Boudon, 1974; Persell, 1977). The financial resources, the environmental living conditions, and the socialization pattern and cultural lifestyle of the family of origin play a decisive role in determining the success or failure of children in school, the ensuing choice of further educational courses or school types at the secondary level, the organization of the entire school career, and the attainment of school-leaving certificates and diplomas(Collins, 1979; Entwisle & Hayduk, 1981; Di Maggio, 1982).

Educational expectations and occupational opportunities

In the last two centuries, the educational opportunities of adolescents have clearly increased. In the Federal Republic of Germany, for example, the proportion of 7th graders in intermediate school ("Realschule" - the school type leading to a certificate securing entry into white-collar, business, or skilled trade occupations) and grammar school ("Gymnasium" - the school

type qualifying for university entrance by offering the "Abitur" - diploma), rose from 26% in 1960 to 56% in 1985. The chances of attaining the levels set by intermediate school and grammar school have also considerably improved during this period (Bundesminister für Bildung und Wissenschaft 1986: 66). Thus, the numbers of those entering an advanced secondary school as well as their success rates have increased. It can be said that in the FRG an enormous "educational expansion" has taken place (Hurrelmann, 1984).

A direct consequence of these developments has been a change in the social status of high-quality school-leaving certificates: These are no longer an elite thing, but have become typical for the majority of an age group. A grammar school-leaving certificate, attained by nearly a third of an age group today, no longer guarantees access to top careers of highly qualified occupations as it was the case 20 years ago. The leaving certificate of the intermediate school has become a kind of "standard civil attribute" of every adolescent, a necessary instrument ensuring access to the middle and higher level careers, especially in business and the service sector.

An extended general school education beyond the age of compulsory schooling has become a necessary, but not sufficient condition of entry into attractive courses of vocational training. This process is accelerated by a tightening of the labor market which has made the transition from school to work extremely difficult, at least for the less qualified.

As a result, adolescence in the 1980s is characterized by an extended school career, which poses specific demands on behavior in terms of scholarly achievement. Adolescence has become identical with the period of formal schooling and, in view of the fierce competition for favorable starting positions in relation to future careers, constitutes a period of challenge in which young people have to cope with vital, biographically relevant tasks and problems. For a majority of adolescents, social integration into the employment sector occurs late in biographical terms or even fails completely. By contrast, integration into the sphere of politico-ethical commitments, friendships and sexual relations, and of cultural and consumer orientations takes place relatively early. Accordingly, adolescents have to develop different profiles of social competences and responsibilities in different societal sectors at different times (Coleman 1980; Hamburg 1980).

The importance of school achievement for the status transition

We must assume that the process of the upgrading of formal education has led to high educational demands and parental expectations being placed upon adolescents. The children of middle- and upper-class families are forced to develop effective strategies to avoid downward social mobility to maintain careers that are consistent with their parents' social status. Students from lower-class families are forced to develop strategies that counteract increasing competition and assist in achieving the best possible starting positions for the transition to the employment sector. For this reason, all social classes direct their efforts to obtaining the most highly

qualified school-leaving certificates. The "optimization of chances" is an integral part of the behavioral strategy of all social classes. As a result, school is the arena in which the social classes compete for the best starting positions in the employment sector (Bourdieu 1984).

The present study approaches the question of whether this specific constellation of conditions has an effect on the social well-being of adolescents. We can expect a high level of insecurity regarding status expectations in those adolescents who, due to poor performance in school or school failure, are threatened by the risk of "downward mobility" and, as a consequence, may be unable to fulfill their parents' aspirations in relation to the school career. Although a certain amount of status insecurity is usual with students in secondary school - due to the transitory character of this phase of life - we must nevertheless expect that a marked increase in status insecurity will lead to "psychosocial costs" that may become manifest in symptoms of psychosocial stress (Hurrelmann 1984a).

Since it is academic achievement above all else which will determine future occupational status, adolescents compare their own position in this phase of the status transition to that of their parents: The possibility of social advancement is as likely as is the threat of social decline. If the danger of downward mobility becomes real, due to school failure or having to repeat a grade or failing the final examinations, then a risk constellation arises for the occurence of symptoms of psychosocial stress.

School achievement, family conflicts, and psychosocial disorders

The assumption is that the social and emotional climate present in the family is affected by the risk of downward mobility. The social and emotional climate in the family is an important moderating factor in the process leading to the occurence of symptoms of stress. Family ties during adolescence are very complex: On the one hand, economic dependence on parents has increased in comparison to the parents' own generation because of the long time spent in school and vocational training. On the other hand, social and emotional relations with parents are no longer as close as they were in the past due to early opportunities for independent decisionmaking in the peer group and in the areas of leisure and consumption. Adolescents increasingly develop lifestyles of their own. The process of separation from parents takes place in different domains of everyday life and at different periods of time, sometimes leading to strained relationships with parents (Hurrelmann 1987).

A risk constellation for the emergence of symptoms of psychosocial stress can be expected when there is conflict with parents over school performance and educational aspirations. Another risk constellation may arise in case of emotional tensions with parents, for example, when adolescents feel discontented and not fully accepted by their parents with respect to their individual lifestyles. Adolescents' relations to their parents contain a strong emotional element, but at the same time they are also tied up with the parents' role expectations directed to the children's scholastic achievements and prospective status aspirations. This is a potential source of tension.

In this study, we follow the general assumptions of stress research stating that the manifestations of stress can be observed at many levels of the organism, including its psychological and emotional functioning, the nervous system, general physical health, the functioning of various organs as well as the endocrine and the immunological system (Siddique & D'Arcey 1984; Pearlin 1987). We assume that disorders at one level can lead to disorders at another level and have a reciprocal effect. Taking failure in school - or, more generally: the risk of downward mobility - as a "social stressor", and variants of the social and emotional family climate as "stress mediators", we will concentrate on vegetative and physiological symptoms of psychosomatic disorders as "stress outcomes" or manifestations. We assume that the status insecurity resulting from failure in school is eventually detrimental to health and well-being, particularly in cases where no favorable familial conditions exist that might lessen the impact of failure.

The relations between stressful conditions of life, critical life events, and role strain, on the one hand, and stess outcomes, on the other, have so far been studied mainly with reference to adults. We need to modify existing theoretical concepts and empirical instruments to provide us with methods suited to the study of adolescence as a distinctive phase of life. Good examples are, among others, the works of Moriarty and Toussieng (1976), Jessor and Jessor (1977), Hotaling, Atwell & Linsky 1978, Johnson (1986) and the studies assembled by Silbereisen, Eyferth, and Rudinger (1986).

The present study tries to follow in this tradition. It means we can utilize the theoretical and methodological advantages of examining adolescence as

a period of life marked by fast-moving, decisive processes of transition leading from one social status to another. Research can concentrate on the analysis of the early development of symptoms and indicators of social stress. The study of the physical, cognitive, emotional and social development in adolescence can thus provide important information on later phases of life (Murphy & Moriarty 1976; Newcomb, Huba & Bentler 1981 Petersen & Craighead 1986; Rutter 1980).

Hypotheses

The following empirical analysis is guided by three hypotheses as derived from the previous discussion:

1. The frequency of psychosomatic disorders increases when the risk of downward mobility because of failure in school is obvious. When the educational status of the adolescent is at stake or has actually deteriorated, the risk of subsequent social downward mobility compared to the parents' status is subjectively experienced by him/her, and we can expect psychosomatic reactions relating to this experience.

2. The frequency of psychosomatic disorders increases when there is social conflict in the parental home. We assume that social conflict functions as a mediator precipitating the occurence of psychosomatic symptoms.

3. The frequency of psychosomatic disorders increases when emotional conflict exists in the relations to parents. We assume that emotional

conflict functions as a mediator precipitating the occurence of psychosomatic symptoms.

2. Method

Sample

The results presented below are based on a questionnaire survey involving 1.717 students aged 13-16 conducted in the winter of 1986. We collected data from 7th and 9th graders from all four school types providing the first stage of secondary education in the West German federal state of North Rhine Westphalia, i.e. Hauptschule (vocational preparatory school), Realschule (intermediate school), Gymnasium (grammar school) and Gesamtschule (comprehensive school). The sample was drawn from an inner city, an urban, and a rural area. The schools and classes were selected and then the classes within these schools. The questionnaires were distributed in the classrooms and took about 90 minutes to complete under the supervision of a member of the research team.

Measurement of major variables

1. Psychosomatic disorders were operationalized through presentation of a general symptoms checklist. Checklists of this type have the advantage that, within the framework of a survey technique, they can be competently

answered by the interviewees (Wuggenig & Engel 1986). Our checklist was based on a series of 24 symptoms, initially. The symptoms were first identified in open-ended, semi-structured discussions with 20 subjects about problematic experiences relating to different domains of their lives and their attempts to deal with them. In the thematic analysis of these discussions certain psychosomatic disorders appeared which finally led to their being included in the symptoms checklist. Our procedure closely resembles the technique used by Pearlin and Lieberman (1979).

The adolescents were asked the following questions: "How often do you suffer from the following complaints?" For each of the complaints we asked, if they occurred "frequently", "sometimes", "seldom" , or "never". In order to get a symptom-structure analysis of the psychosomatic disorders on the basis of this operationalization, we calculated a factor analysis of the complete list of 24 symptoms. We compared the results of a maximum-likelihood factor analysis (ML) and a principal-component analysis (PC), excluding all unstable items. The final result was a reduced set of 12 symptoms. Factor 1 groups together those symptoms that can be defined as "vegetative syndrome", whereas factor 2 subsumes those with a more "physiological" background. On the basis of the ML-factor analysis, which explains 36% of the variance, we calculated the two individual factor scores and the total score of all 12 symptoms for each adolescent. The total score is an index which counts the amount of symptoms experienced "sometimes" or "frequently".

Table 1: Factor structure of the reduced set of psychosomatic complaints (maximum-likelihood procedure ML)

Factor 1 ("vegetative syndrome")	Loadings
trembling hands	.62
nervousness/restlessness	.62
lack of concentration	.54
palpitations	.51
sweating attacks	.49
sleeplessness/disturbed sleep	.48
Factor 2 ("physiological syndrome")	
attacks of nausea	.63
stomach pains	.62
dizziness	.53
headaches	.50
lack of appetite	.40
breathing problems	.33

To check the validity of adolescents' self-reports of psychosomatic disorders, we correlated the scores on the symptoms checklist with two additional variables of our study: First, with the frequency score for "specific diseases". We found that there was significant correlation between syndromes such as circulatory disorder, heart trouble, digestive trouble, allergy and asthma and the individual factor scores for psychosomatic symptoms. We take this as positive evidence of the validity of adolescents' self-reporting on health problems. Second, with the information adolescents gave on their consumption of medicines during the previous months. Significant correlations could be shown, for example, between the symptoms such as headache and the use of headache tablets (r=.45), sleep disturbances and sleeping pills or sedatives, or dizziness and cardiac remedies/circulatory preparations (r=.27). We believe that this result also reflects a satisfactory validity of our measure of psychosomatic disorders.

Of the items on the checklist, headaches and nervousness/restlessness were reported most frequently, i.e., symptoms which represent both of the two factors mentioned (Table 2).

Table 2: Percentage frequency of psychosomatic disorders (N=1717)

Symptoms	Occurence "often"	"sometimes"	"seldom/never"
headaches	20%	28%	52%
nervousness/restlessness	16%	25%	59%
dizziness	12%	18%	70%
lack of concentration	9%	27%	64%
stomach pains	9%	21%	70%
sleeplessness/disturbed sleep	9%	16%	75%

Female adolescents reported psychosomatic problems with significantly greater frequency than did males, so that this variable must be seen as containing a strong sex-specific element.

2. The variable "failure in school/risk of downward mobility" is registered on an index which examines for each individual and his or her previous scholastic career whether or not the following condition applies: a risk of repeating a grade because of bad marks has occurred once or twice, or: a school grade has actually been repeated once or twice, or: a transfer of schools because of bad marks has occured. On this index the score is 1, if the condition is fulfilled, if not, it is 0.

3. The variable "social conflict with parents" was constructed on the basis of a set of six indicators denoting disagreement with parents (school performance, untidiness, refusing to help with household chores, clothes/hairstyle, smoking, wanting to go out in the evening). Subjects were asked wether there had been occasional or frequent arguments on these

issues during the preceding three months ("frequently/sometimes/seldom/never"). The factor analysis of these six scales produced a two-factor structure (variance accounted for: F 1: 26%, F 2: 8%). The first factor is included in the present analysis via individual factor scores. This factor represents the disagreement over untidiness (factor loading = .71), refusing to help with household chores (.54), and school performances (.40).

4. The variable "emotional conflict with parents" is based on a set of six indicators. The interviewees were asked: "How do you feel about the situation at home?". Six responses were possible in the form of three contrasting pairs: "You are contend, you feel accepted, you feel happy" / "You are not contend, you feel rejected, you don't feel happy". Possible replies were: "frequently, sometimes, seldom, never". The factor analysis of these six scales produced a two-factor structure (variance accounted for: 49%). The first factor is included in the present analysis via individual factor scores. This factor represents the negative statements: feeling unhappy (.86), feeling rejected (.50), feeling disconnected (.44). Female subjects reported emotional conflict significantly more often than did males.

3. Findings: Psychosomatic disorders as manifestations of stressful experiences in school and family

First, our data provide evidence for hypothesis 1, which states that the frequency of psychosomatic disorders is raised when there is a risk of downward mobility because of failure in school. Table 3, first column,

gives the percentage figures for the group of students with an above- and below-average number of symptoms (for the two individual factor scores of symptoms, using the median as cut-off point), and the occurrence or nonoccurence of failure in school. The data show that in the group with failure in school the scores for an above-average frequency of psychosomatic disorders are significantly higher than in the group without failure in school. This relationship holds for both the vegetative and the physiological syndrome. Obviously, a successful scholastic biography plays an important role in adolescents' well-being: If the school record is not successful, it can be a source of psychosocial stress and lead to the manifestation of stress symptoms.

Second, our data support hypothesis 2, which states that the frquency of disorders increases when social conflict with parents is intense. The data show that in the group reporting considerable conflict at home, the scores for an above-average frequency of disorders are higher than in the group with low conflicts. This result coroborates the tenability of hypothesis 2.

Third, our data confirm hypothesis 3, which states that the frequency of psychosomatic disorders is higher when there is emotional conflict in the family. The data show that in the group reporting intense emotional conflict the above-average number of symptoms of disorders is higher than in the group with little emotional conflict. This result substantiates the tenability of hypothesis 3.

Table 3: Percentage distribution of psychosomatic disorders with failure in school and social conflicts and emotional conflicts with the parents

Experience of ...	Frequency of above-average psychosomatic symptoms for Factor 1* (vegetative syndrome)	Factor 2* (physiological syndrome)
Failure in school	56%	54%
No failure in school	46%	48%
High level of social conflicts	59%	58%
Low level of social conflicts	41%	41%
High level of emotional conflicts	62%	60%
Low level of emotional conflict	41%	41%

($p = < .05$ for all distributions
*= based on the individual factor scores, using the median as cut-off point

A comparison of the findings presented in Table 3 reveals that the correlations with "frequency of psychosomatic disorders" are strongest for the variable "emotional conflicts". An interesting aspect is that the manifestations of the vegetative syndrome (trembling hands, nervousness, lack of concentration, palpitations etc.) are consistently more marked than those of the physiological syndrome (nausea, stomach pains, dizziness etc.).

The empirical findings are so far based on bivariate analyses only, a fact that could be potentially misleading since it involves a high risk of spurious correlations. Therefore, the tenability of the hypotheses should additionally be assessed on the basis of the common multivariate frequency distribution of the variables involved. Also, the intercorrelations between the three variables school failure, social conflicts with parents, and emotional conflicts with parents should be explicitely taken into account in order to check, whether both social and emotional conflicts at home are aggravated when there is a risk of educational downward mobility and to find out, whether social conflicts at home intensify emotional conflicts with parents.

A suitable method to simmultaneously consider the correlations of all variables mentioned within the framework of a combined model is by way of path analysis. To arrive at unconfounded estimates of effect, the variable "sex of subjects" has additionally to be included in the path analysis model, because we know from bivariate analysis that both emotional conflicts and psychosomatic disorders are sex-related functions: On the average girls report more symptoms and experience emotional conflicts at home more often than boys.

Figure 1 presents the complete path model, including the standardized path coefficients of the structural equations. The equations are also given in Figure 1.

[Fig 1]

Figure 1 illustrates that the symptoms frequency increases directly and indirectly due to failure in school and the risk of downward mobility. Apart from the direct effect, one path runs via social conflict and the other via emotional conflict with the parents. Both paths provide important partial explanations which permit the conclusion that failure in school and thus the risk of downward mobility reinforces the psychosomatic symptoms for the reason that (in addition to other determinants) it causes social conflict and/or emotional conflict at home which in turn increase the symptoms frequency.

The model shows that, in methodological terms, social and emotional conflict do not constitute intervening variables in a full sense, for the variable "risk of downward mobility" retains a direct influence on symptoms frequency. Moreover, the model suggests that emotional conflict

may also be interpreted as a result of social conflict at home: One reason why social conflict reinforces the psychosomatic symptoms is that it causes emotional conflict which, in turn, affect the frequency of psychosomatic disorders. As the corresponding path coefficients show, through emotional conflict the variable "sex of subjects" also has a direct as well as an indirect influence on the symptoms frequency of psychosomatic disorders.

The findings presented in Figure 1 turn out to be fully replicable when the variable x5 of the structural equations model, which, for each individual, measures the frequency of all symptoms, is replaced by the individual-factor-scores variables.

4. Summary and discussion

Our data show that the risk of failure in school and its actual occurence constitute a source of psychosocial stress in adolescence. Students exposed to the risk of having to repeat a grade or to transfer to a lower school type due to poor performance and, as a consequence, the risk of not attaining a school-leaving certificate in line with their parents' and their own aspirations and plans, undergo highly stressful experience. Obviously the risk of occupational and social downward mobility in the future is responsible for the "costs" manifested in a high percentage of an above-average number of health problems such as the psychosomatic disorders discussed above.

Our data are the result of a survey study undertaken in West Germany. Thus, they mirror the specific educational and occupational opportunity structures encountered in this country. As has been pointed out, the threat of downward social mobility is of great concern to West German adolescents because the spiraling effect of the level of school-leaving certificates makes it difficult for adolescents to fulfill the preconceived status expectations of their parents.

In view of the interconnections between educational failure, on the one hand, and conflict and tension with parents, on the other, that we found in our analysis, we can show that this interrelatedness of the educational and the familial context has a demonstrable effect on the process of status transition in adolescence. Obviously, psychosomatic disorders (as manifestations of social stress) are likely to increase if there is a combination of unfavourable conditions affecting major spheres of adolescent life. Our findings thus highlight the crucial and pervasive effect of school during adolescence in that the foundations for future occupational and social status are laid during this period: The position reached on the ladder of academic attainment functions as a starting point and trigger for adolescents' well-being even outside the school environment and particularly at home.

During adolescence it is especially the family that plays an important role in influencing occupational choices. Parents' assessment of academic achievement in relation to its career impact is one of their major functions. Our study shows that the social and emotional climate of family relationships is adversely affected by poor school performance; at the same time, the atmosphere at home is a mediating factor vis-a-vis problems that

may result from school failure. Our conclusion is that against the background of increased competition in the labor market in recent years, the interconnections between school-failure and the quality of family relations revealed here have become progressively more significant, and will continue to do so, thus constituting a source of considerable tension that might interfere with satisfactory relations between adolescents and parents. Clearly, the underlying causes for the tensions are to be found outside the family in the social and economic opportunity structures of society.

References

Boudon, R. (1974): Education, opportunity, and social inequality. New York: Wiley

Bourdieu, R. (1984): Distinction. A social critique of the judgement of taste. London: Routledge and Kegan Paul

Bundesminister für Bildung und Wissenschaft (1986): Grund- und Strukturdaten. Bad Honnef: Bock

Collins, R. (1979): The credential society. New York: Academic Press

DiMaggio, P. (1982): Cultural capital and school success: The impact of status culture participation on the grades of U.S. High School students. American Sociology Review, 47, 189-201

Coleman, J.C. (1980): The nature of adolescence. New York: Basic Books

Engel, U. (1987): Youth, mobility and social integration. In Hazekamp, O. (Ed.): Youth research in Western Germany. Amsterdam: Free University Press

Entwisle, D., & Hayduk, L.A. (1981): Academic expectations and the school attainment of young children. Sociology of Education, 54, 34-50

Hamburg, B.A. (1980): Early adolescence as a life stress. In Levin, S., & Ursin, H. (Eds.): Coping and health. New York: Plenum Press, 121-143

Hotaling, G.T., Atwell, S.G., & Linsky, A.S. (1978): Adolescent life changes and illness. Journal of Youth and Adolescence, 7, 393-402

Hurrelmann, K. (1984): Adjusting to an erosion of opportunities. The experience of West German youth. Policy Studies, 5, 43-65

Hurrelmann, K. (1984a): Societal and organizational factors of stress on students in school. European Journal of Teacher Education, 7, 181-190

Hurrelmann, K. (1987): The limits and potential of social intervention in adolescence. In Hurrelmann, K., Kaufmann, F.X., & Lösel, F.(Eds.): Social intervention: Potential and constraints. Berlin/New York: De Gruyter, 219-240

Jessor, R., & Jessor, S.L. (1977): Problem behavior and psychosocial development. A longitudinal study of youth. New York: Academic Press

Johnson, J.H. (1986): Life events as stressors in childhood and adolescence. Newbury Park: Sage

Moriarty, A.E., & Toussieng, M.D. (1976): Adolescent coping. New York: Grune & Stratton

Murphy, L.B., & Moriarty, A.E. (1976): Vulnerability, coping and growth from infancy to adolescence. New Haven: Yale University Press

Newcomb, N.D., Huba, G.J., & Bentler, P.M. (1981): A multidimensional assesment of stressful life events among adolescents. Journal of Health and Social Behavior, 22, 400-415

Pearlin, L.I., & Lieberman, M.A. (1979): Social sources of emotional distress. In Simmons, R. (Ed.): Research in community and mental health. Greenwich: JAI-Press, 214-248

Pearlin, L.I. (1987): The stress process and strategies of intervention. In Hurrelmann, K, Kaufmann, F.-X., & Lösel, F. (Eds.): Social intervention: Potential and constraints. Berlin/New York: De Gruyter, 53-72

Persell, C.H. (1977): Education and inequality. New York: The Free Press

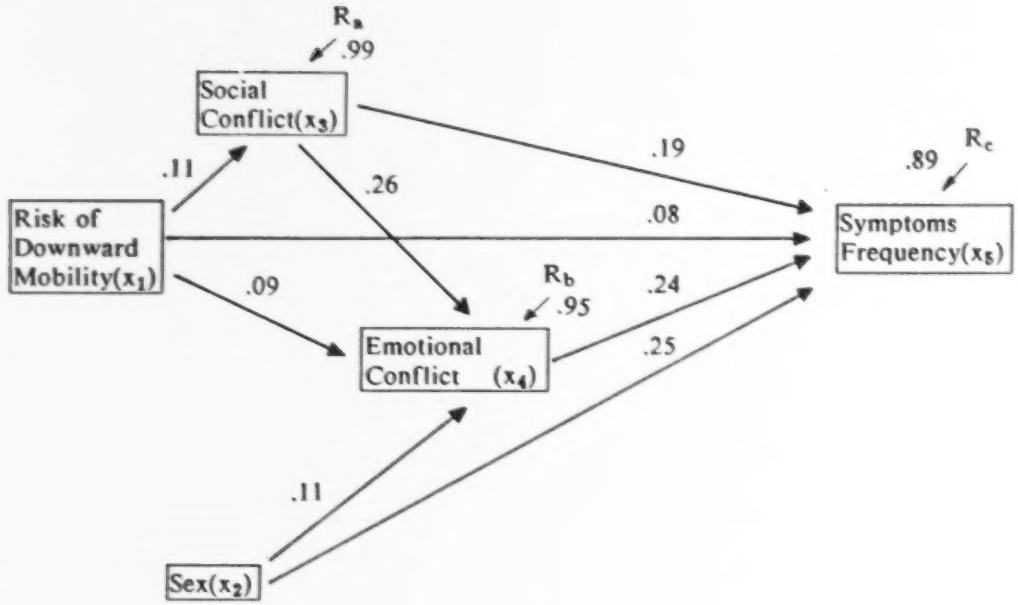
Petersen, A.C., & Craighead, W.E. (1986): Emotional and personality development in normal adolescents and young adults. In G.L. Leiman (Ed.): Suicide and depression among adolescents and young adults. Washington: APP Press, 19-52

Rutter, M. (1980): Changing youth in a changing society. Cambridge: Harvard University Press

Siddique, C.M., & D'Arcey, C. (1984): Adolescence, stress, and psychological well-being. Journal of Youth and Adolescence, 113, 459-473

Silbereisen, R., Eyfert, K., & Rudinger, G. (Eds.)(1986): Development as action in context. New York: Springer

Wuggening, U., & Engel, U. (1986): Statusinkonsistenz, mentale Inkongruenz und Stress. Ergebnisse der vergleichenden Theorientestung. Hannover: University of Hannover Press



Structural equations:

$$X_3 = b_{31}X_1 + b_{3a}R_a$$
$$X_4 = b_{41}X_1 + b_{42}X_2 + b_{43}X_3 + b_{4b}R_b$$
$$X_5 = b_{51}X_1 + b_{52}X_2 + b_{53}X_3 + b_{54}X_4 + b_{5c}R_c$$

all b's standardized path coefficients

Figure 1